SEQUENCE LISTING

<110> Outtrup, Helle Nielsen, Bjarne Roenfeldt 5 Hedegaard, Lisbeth Andersen, Jens Toenne

<120> Alkaline Bacillus Amylase

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-20

96

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	Asp Glr		ry lie	Gin	Ala	-	Pne	Asp	vai	vaı		Asn	HIS	Arg	
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35	o.t	. ~~~	·	~	~~-	2 a t	2++	aat.	~~-	++-	~~-	a+	<i>a</i>	+~~	400
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	~+ ~	++0	+++	at a	aat	~ ~ ~ ~	~~~	+ ~ ~	at a	201	gat	2+0	220	77 0	+ > +	ata	854
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													Val		_		
	370		1			375		,			380			-1-		385	
25	5,0					3,3					300					303	
20	a+ a	222	~ ~ ~ ~	~~~	a++	200	20+	~+~	222	~~+	200	~~+	a+~	~+~	2+2	ata	120/5
													ctg				1296
	Val	Arg	GIU	GIĀ		ser	Thr	val	Pro	_		GIY	Leu	Val		Leu	
					390					395					400		
30	ata	tcg	ggt	cga	aac	tgg	ggt	ggt	cag	cag	tcg	ttc	acc	atc	aac	agc	1344
	Ile	Ser	Gly	Arg	Asn	Trp	Gly	Gly	Gln	Gln	Ser	Phe	Thr	Ile	Asn	Ser	
				405					410					415			
	cac	cag	ccg	aat	acc	acc	ttt	tac	gat	tat	acc	ggc	aat	gtt	agc	ggc	1392
35	His	Gln	Pro	Asn	Thr	Thr	Phe	Tyr	Asp	Tyr	Thr	Gly	Asn	Val	Ser	Gly	
			420					425					430				
	acg	gtg	acc	acc	aat	gcg	cag	ggc	tat	ggc	agc	ttc	ccg	gtc	act	atg	1440
													Pro				
								1	- 1 ~	1							

435 440 445

	acg	gaa	agt	acc	ggt	tgg	tca	gtc	tgg	gta	сса	caa	tcc	aat	ggt	ggc	1488
		_	_					_		_					Gly		
5	450					455			-		460				-	465	
	act	cag	ccg	gga	tcc	att	acc	ctg	cgg	atg	acc	aag	gat	gtt	ggc	tat	1536
	Thr	Gln	Pro	Gly	Ser	Ile	Thr	Leu	Arg	Met	Thr	Lys	Asp	Val	Gly	Tyr	
					470					475					480		
10																	
	ggc	ttt	tcg	ttg	ttc	ttc	acc	ggc	agc	agt	gcg	gaa	ctg	acc	aac	tgg	1584
	Gly	Phe	Ser	Leu	Phe	Phe	Thr	Gly	Ser	Ser	Ala	Glu	Leu	Thr	Asn	Trp	
				485					490					495			
15	ggc	ggc	ggt	att	gaa	ggc	acc	tgg	aca	tcc	ggt	aat	gtc	tgg	gaa	gtg	1632
	Gly	Gly	Gly	Ile	Glu	Gly	Thr	Trp	Thr	Ser	Gly	Asn	Val	Trp	Glu	Val	
			500					505					510				
	acc	atc	ccg	gat	ccg	ggc	aac	ttt	gaa	tgg	aaa	acc	cgt	aaa	ggc	cca	1680
20	Thr	Ile	Pro	Asp	Pro	Gly	Asn	Phe	Glu	Trp	Lys	Thr	Arg	Lys	Gly	Pro	
		515					520					525					
	acc	ggt	ggc	agt	ggt	cag	gac	tgg	gaa	agt	ggc	agc	aac	cac	aat	cag	1728
	Thr	Gly	Gly	Ser	Gly	Gln	Asp	Trp	Glu	Ser	Gly	Ser	Asn	His	Asn	Gln	
25	530					535					540					545	
	acc	aat	ttg	cac	ccc	agt	ttt	aat	ggt	ggg	ttt	taa					1764
	Thr	Asn	Leu	His	Pro	Ser	Phe	Asn	Gly	Gly	Phe	*					
					550					555							
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<21

<211> 587

<212> PRT

35 <213> Bacillus sp.

<220>

<221> SIGNAL

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<400> 4

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5	Ala	Ile	Ala	Leu	Ser	Ala	Leu	Ser	Leu	Ser	Phe	Gly	Leu	Gln	Ala	Ser
	-15					-10					- 5					1
	Glu	Leu	Pro	Gln	Ile	Pro	Pro	Gln	Gln	Val	Asn	Asn	Thr	Met	Tyr	Gln
				5					10					15		
	Ala	Phe	Tyr	Trp	Asp	Ala	Tyr	Pro	Gly	Leu	Trp	Ala	Asn	Leu	Pro	Ala
10			20					25					30			
	Met	Ala	Ala	Pro	Leu	Ala	Glu	Arg	Gly	Ile	Thr	Ser	Met	Trp	Leu	Pro
		35					40					45				
	Pro	Ala	Ala	Lys	Gly	Met	Asn	Gly	Thr	Phe	Ser	Val	Gly	Tyr	Asp	Val
	50					55					60					65
15	Tyr	Asp	Phe	Trp	Asp	Leu	Gly	Glu	Phe	Asn	Gln	Lys	Gly	Thr	Thr	Ala
					70					75					80	
	Thr	Arg	Tyr	Gly	Thr	Arg	Gln	Gln	Leu	Gln	Gln	Ala	Leu	Ser	Ala	Leu
				85					90					95		
	Asp	Gln	Leu	Gly	Ile	Gln	Ala	Tyr	Phe	Asp	Val	Val	Phe	Asn	His	Arg
20			100					105					110			
	Met	Gly	Ala	Asp	Ala	Gln	Glu	Asn	Ile	Pro	Gly	Phe	Gly	Leu	Ala	Trp
		115					120					125				
	Thr	Glu	Tyr	His	Leu	Gln	Gly	Arg	Gln	Ala	His	Tyr	Thr	Gln	Gln	Asn
	130					135					140					145
25	Trp	Gly	Tyr	Leu	Trp	His	Asp	Phe	Asp	Trp	Asn	Trp	Thr	Ala	Phe	Asn
					150					155					160	
	Gly	Ser	Asp	Asn	Gln	Leu	Tyr	Pro	Gly	Lys	Trp	Trp	Gly	Asn	Thr	Phe
				165					170					175		
	His	Phe	Pro	Tyr	Leu	Met	Gly	Glu	Asp	Val	Asp	Tyr	Asn	Arg	Phe	Glu
30			180					185					190			
	Val	Gln	Gln	Glu	Met	Lys	Ala	Trp	Gly	Glu	Trp	Ile	Ile	Asn	Ser	Val
		195					200					205				
	Gly	Phe	Ser	Gly	Phe	Arg	Met	Asp	Ala	Ile	Ala	His	Val	Asp	Thr	Asp
	210					215					220					225
35	Phe	Thr	Arg	Asp	Trp	Ile	Asn	His	Val	Gln	Trp	Ala	Thr	Ser	Glu	Asp
					230					235					240	
	Val	Phe	Phe	Val	Ala	Glu	Ala	Trp		Ser	Asp	Ile	Asn	_	Tyr	Leu
				245					250					255		
	Asp	Ala	Val	Asn	Thr	Pro	His	Leu	Arg	Ala	Phe	Asp	Phe	Asn	Leu	Arg



Glu Asp Phe Val Ala Leu Ser Ser Gly Ser Lys Asp Met Arg Trp Trp Gly Gly Leu Val Asn Ser Gln His Arg Asp Arg Ala Val Thr Phe Val Asp Asn His Asp Thr Ser Arg Ala Gly Asn Pro Tyr Gly Met Pro Gln Val Ile Asn Tyr Lys Asn Gln Ala Tyr Ala Tyr Ile Leu Leu Arg Glu His Gly Val Pro Thr Val Phe Ala Arg Asp Tyr Asp Glu Phe Gly Met Ala Pro Thr Leu Asp Lys Leu Ile Glu Ala Arg Arg Tyr Phe Ala Tyr Gly Pro Gly His Glu Tyr Ser Gly Asn Thr Glu Ala Val Tyr Ala Tyr Val Arg Glu Gly Leu Ser Thr Val Pro Gly Thr Gly Leu Val Met Leu Ile Ser Gly Arg Asn Trp Gly Gly Gln Gln Ser Phe Thr Ile Asn Ser His Gln Pro Asn Thr Thr Phe Tyr Asp Tyr Thr Gly Asn Val Ser Gly Thr Val Thr Thr Asn Ala Gln Gly Tyr Gly Ser Phe Pro Val Thr Met Thr Glu Ser Thr Gly Trp Ser Val Trp Val Pro Gln Ser Asn Gly Gly Thr Gln Pro Gly Ser Ile Thr Leu Arg Met Thr Lys Asp Val Gly Tyr Gly Phe Ser Leu Phe Phe Thr Gly Ser Ser Ala Glu Leu Thr Asn Trp Gly Gly Gly Ile Glu Gly Thr Trp Thr Ser Gly Asn Val Trp Glu Val Thr Ile Pro Asp Pro Gly Asn Phe Glu Trp Lys Thr Arg Lys Gly Pro Thr Gly Gly Ser Gly Gln Asp Trp Glu Ser Gly Ser Asn His Asn Gln Thr Asn Leu His Pro Ser Phe Asn Gly Gly Phe